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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,164	10/20/2003	H. Shinn Hwang	3995C (CON)	9459

7590 05/05/2004

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EXAMINER

HAILEY, PATRICIA L

ART UNIT

PAPER NUMBER

1755

DATE MAILED: 05/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/689,164

**Applicant(s)**

HWANG ET AL.

**Examiner**

Patricia L. Hailey

**Art Unit**

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,18-26,31,37-45,52-71 and 75-77 is/are pending in the application.
- 4a) Of the above claim(s) 71 and 75-77 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,18-26,31,37-45 and 52-70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/20/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Applicants' Preliminary Amendment, filed on October 20, 2003, has been made of record and entered. In this amendment, the first paragraph of the Specification has been amended to update the parent application data, and claims 4-17, 27-30, 32-36, 46-51, and 72-74 have been canceled. No new claims have been added.

Claims 1-3, 18-26, 31, 37-45, 52-71, and 75-77 remain pending in this application.

Applicants' Amendment to the first paragraph of the Specification contains an error. In line 2, the status of parent application 09/917,847 should be added (e.g., "now abandoned"), and in line 3, "09/764,544" should be "08/761,544".

### *Election/Restrictions*

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-3, 18-26, 31, 37-45, and 52-70, drawn to a catalyst article and methods for its preparation, classified in class 502, subclass 527.12.
  - II. Claims 71 and 75-77, drawn to an engine comprising an exhaust system, classified in class 123, subclass 25 R.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP §

Art Unit: 1755

808.01). In the instant case the different inventions have different functions.

Invention I has the function of being a sorbent or catalyst composition (e.g., a hydroconversion catalyst).

3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Richard A. Negin on April 13, 2004, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-3, 18-26, 31, 37-45, and 52-70. Affirmation of this election must be made by applicant in replying to this Office action. Claims 71 and 75-77 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1755

*Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 1755

**9. Claims 1-3, 18-26, 31, 37-45, and 52-70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al. (U. S. Patent No. 5,597,771).**

Hu et al. teach a catalyst composite having first and second layers. The first layer comprises at least one first palladium component and an oxygen storage component in intimate contact with the first palladium component, optionally another first platinum group metal component, a zirconium component, at least one first alkaline earth metal component and at least one first rare earth metal component selected from lanthanum and neodymium metal components. The second layer comprises at least one second palladium component, optionally another second platinum group metal component, at least one second alkaline earth metal component, at least one second rare earth metal component selected from lanthanum and neodymium metal components, and a zirconium component. See col. 8, lines 18-48 of Hu et al.

Exemplary oxygen storage components include ceria, zirconia, and rare earth components; exemplary platinum group metal components include platinum. See col. 8, line 58 to col. 9, line 37 of Hu et al.

Exemplary alkaline earth metals include magnesium, barium, calcium, and strontium. See col. 10, lines 16-24 of Hu et al.

The catalyst composite can be coated in layers on a monolithic substrate, preferably a metal or ceramic honeycomb carrier. See col. 16, lines 40-45 and col. 17, lines 50-53 of Hu et al., as well as col. 17, line 66 to col. 18, line 51.

The layers can be in the form of particles having a size of less than about 20 microns (first layer), and of less than 25 microns (second layer). See col. 20, lines 22-36 and col. 21, lines 11-27 of Hu et al., respectively.

Hu et al. further disclose that the catalyst composite is useful to promote chemical reactions, especially the oxidation of carbonaceous materials, e.g., hydrocarbons, said reactions conducted at temperatures ranging from at least about 100°C, typically about 150°C to 900°C, and generally with the feedstock in the vapor phase. See col. 21, line 40 to col. 22, line 20 of Hu et al.

Hu et al. do not specifically recite the claimed components, e.g., a "precious metal component".

However, Hu et al. teach catalyst components, as well as substrate and support components, that respectively read upon the components recited in the instant claims. Therefore, it would have been obvious to one skilled in the art at the time the invention was made to select any of the components recited in Hu et al., since it has been held to be within the general skill of a worker in the art to select a material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 U.S.P.Q 416.

### *Conclusion*

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

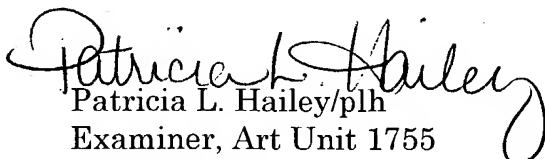
Art Unit: 1755

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (571) 272-1369. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 1700 Receptionist, whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Patricia L. Hailey/plh  
Examiner, Art Unit 1755  
April 28, 2004

  
Mark L. Bell  
Supervisory Patent Examiner  
Technology Center 1700